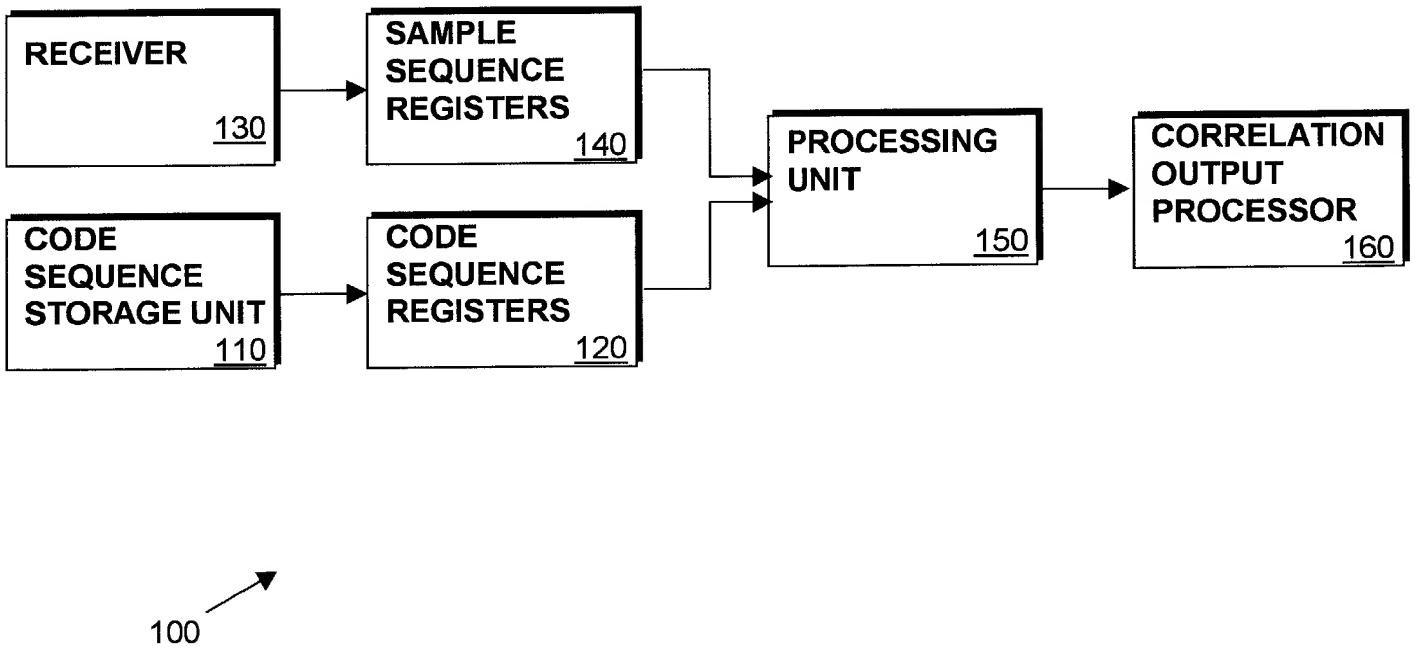
RECEIVER
130
SAMPLE SEQUENCE REGISTERS
140
CODE SEQUENCE STORAGE UNIT
110
CODE SEQUENCE REGISTERS
120
PROCESSING UNIT
150
CORRELATION OUTPUT PROCESSOR
160
100

FIG. 1

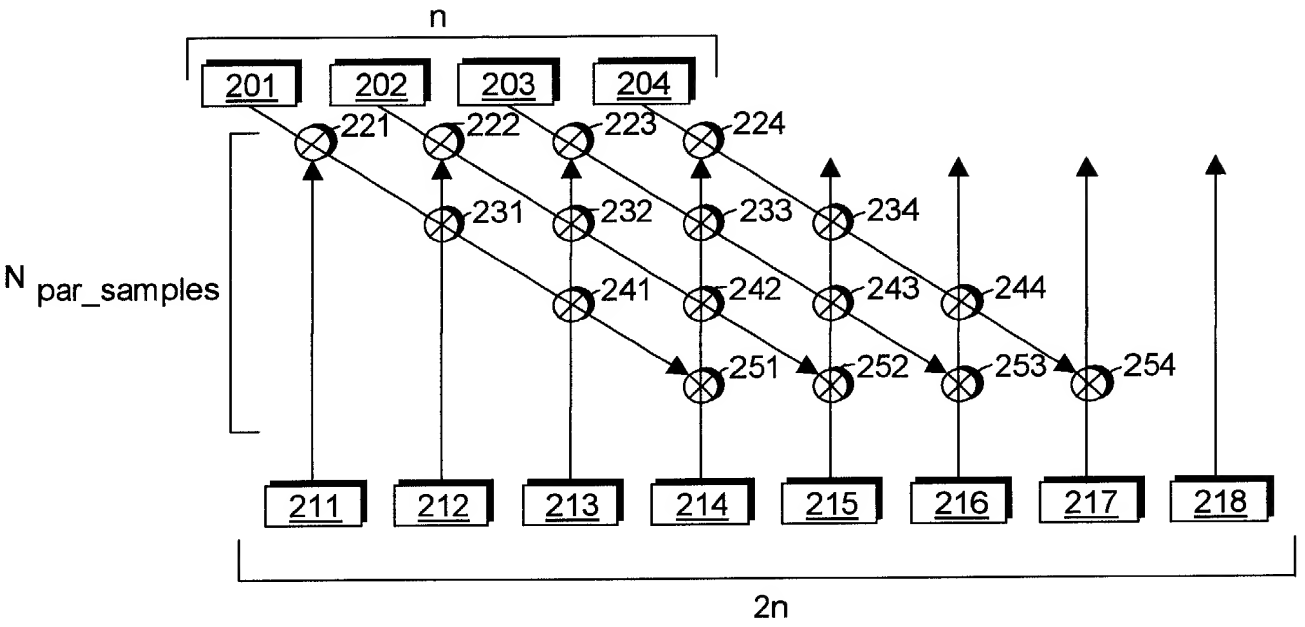
n
201
202
203
204
221
222
223
224
231
232
233
234
241
242
243
244
251
252
253
254
N par_samples
211
212
213
214
215
216
217
218
2n

FIG. 2

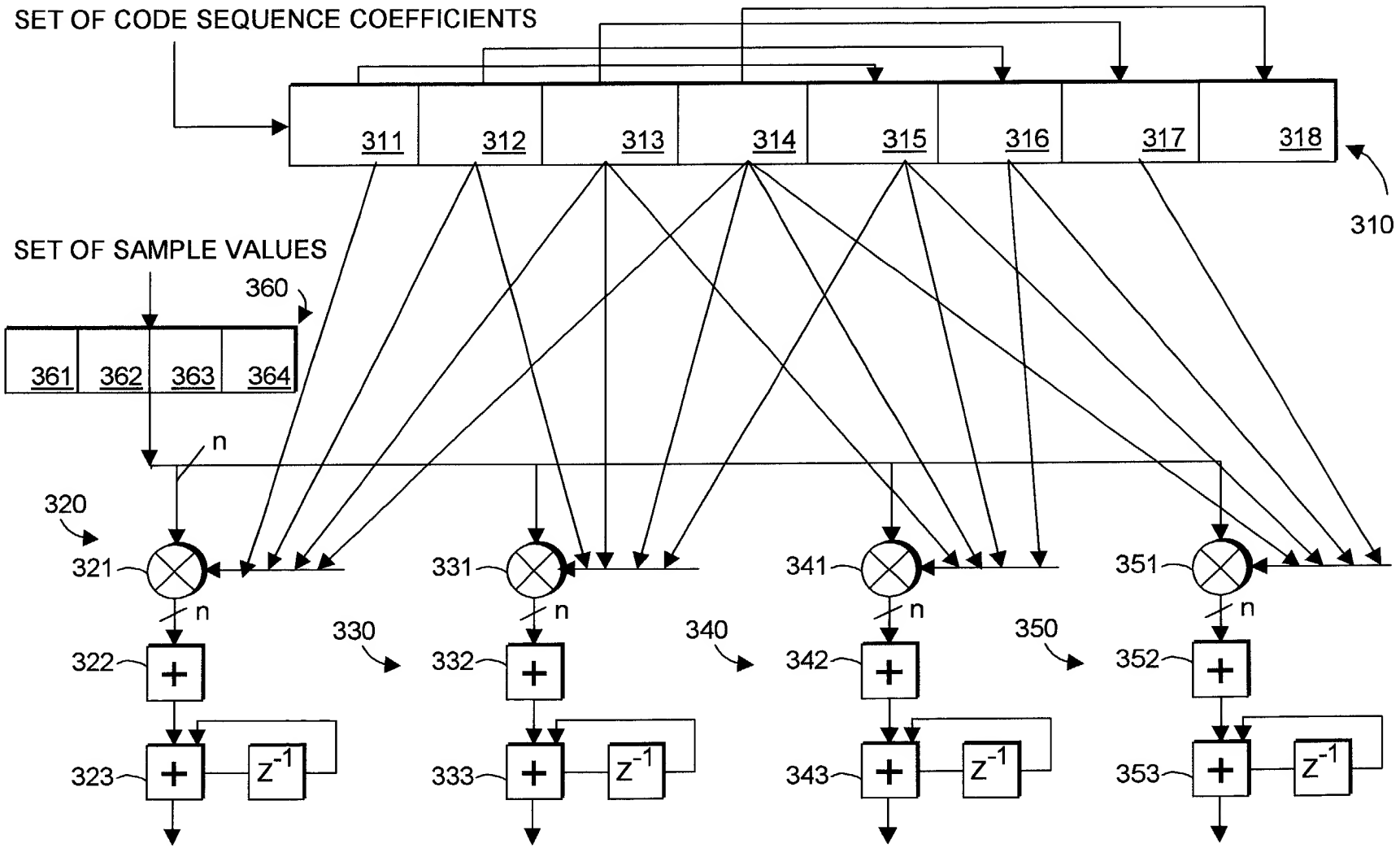
SET OF CODE SEQUENCE COEFFICIENTS
311
312
313
314
315
316
317
318
310
SET OF SAMPLE VALUES
360
361
362
363
364
n
320
321
331
341
351
n
330
340
350
322
332
342
352
323
333
343
353
Z^{-1}

FIG. 3

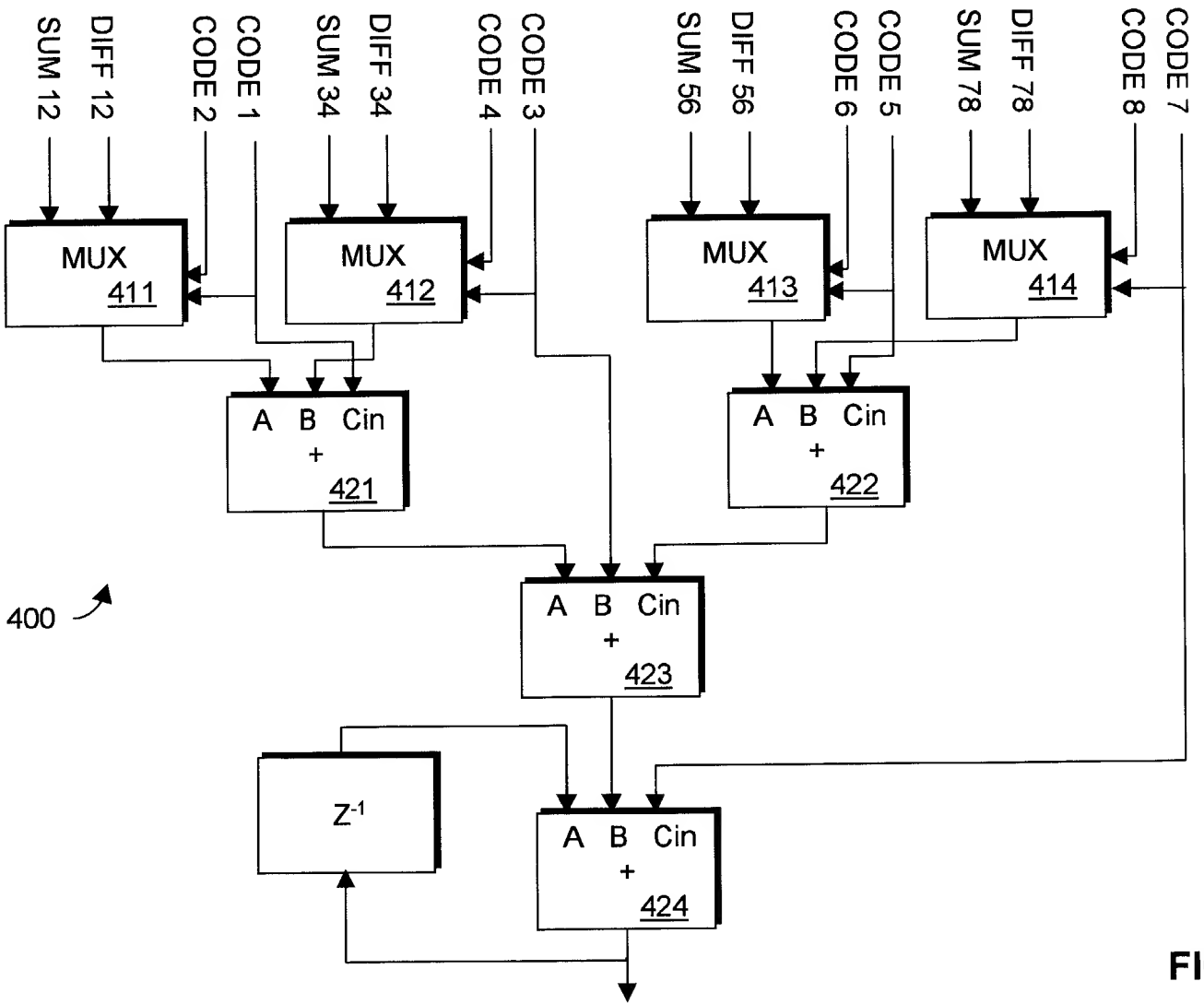
SUM 12
DIFF 12
CODE 2
CODE 1
SUM 34
DIFF 34
CODE 4
CODE 3
SUM 56
DIFF 56
CODE 6
CODE 5
SUM 78
DIFF 78
CODE 8
CODE 7
MUX 411
MUX 412
MUX 413
MUX 414
A B Cin + 421
A B Cin + 422
A B Cin + 423
A B Cin + 424
Z-1
400

FIG. 4

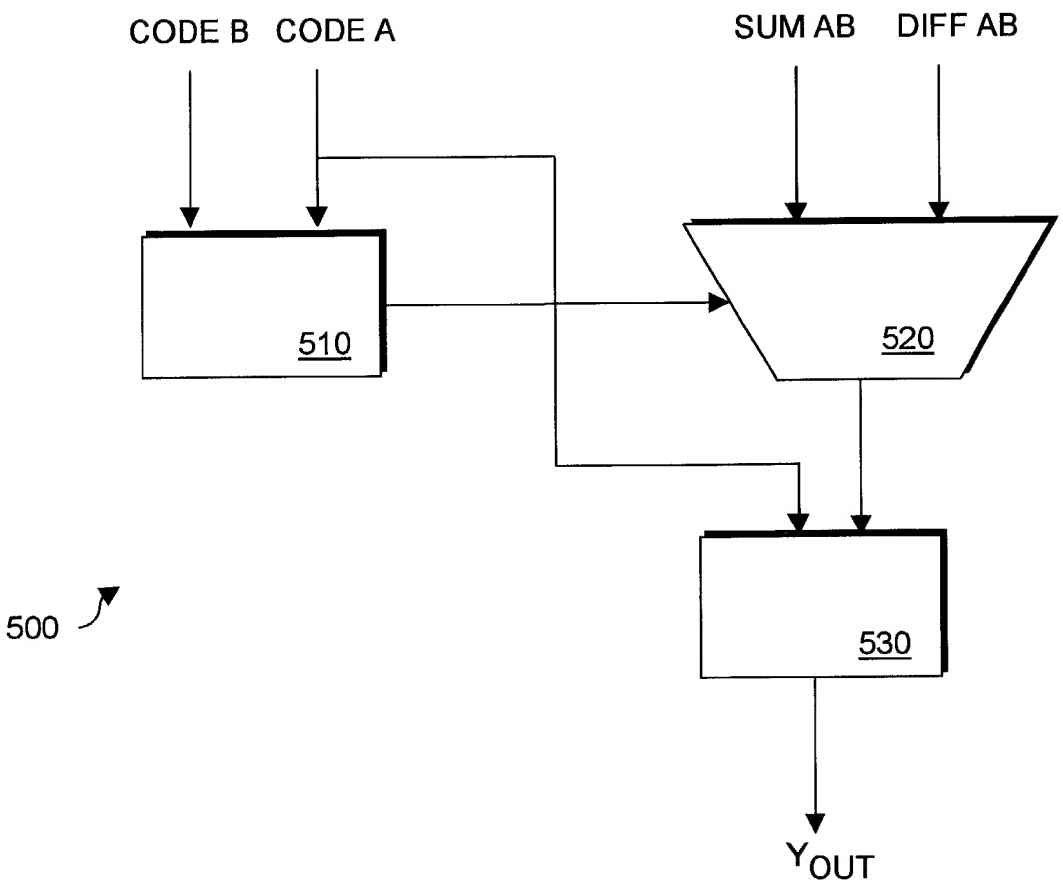

FIG. 5

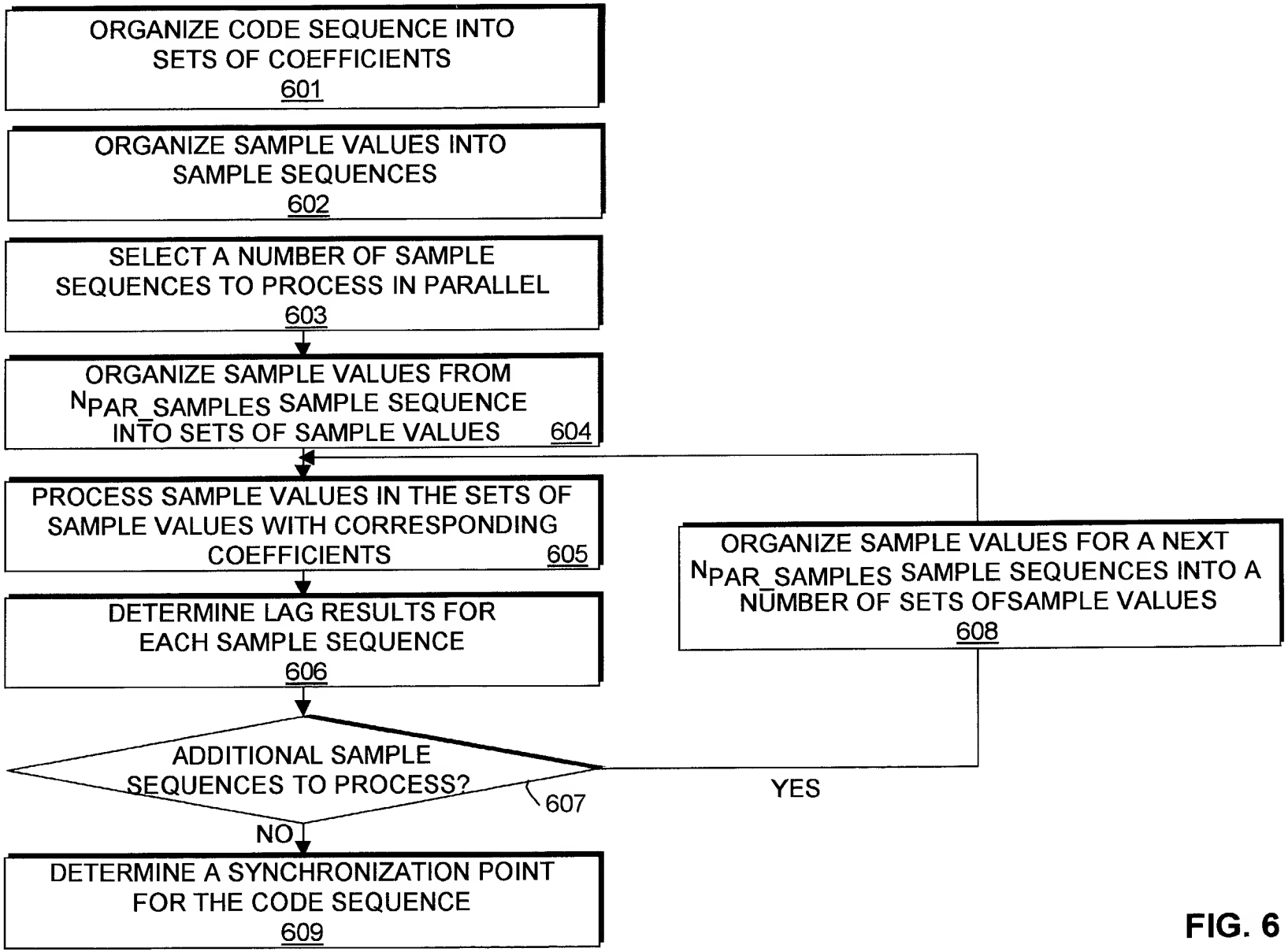
ORGANIZE CODE SEQUENCE INTO SETS OF COEFFICIENTS
601
ORGANIZE SAMPLE VALUES INTO SAMPLE SEQUENCES
602
SELECT A NUMBER OF SAMPLE SEQUENCES TO PROCESS IN PARALLEL
603
ORGANIZE SAMPLE VALUES FROM NPAR_SAMPLES SAMPLE SEQUENCE INTO SETS OF SAMPLE VALUES
604
PROCESS SAMPLE VALUES IN THE SETS OF SAMPLE VALUES WITH CORRESPONDING COEFFICIENTS
605
DETERMINE LAG RESULTS FOR EACH SAMPLE SEQUENCE
606
ADDITIONAL SAMPLE SEQUENCES TO PROCESS?
607
YES
NO
ORGANIZE SAMPLE VALUES FOR A NEXT NPAR_SAMPLES SAMPLE SEQUENCES INTO A NUMBER OF SETS OFSAMPLE VALUES
608
DETERMINE A SYNCHRONIZATION POINT FOR THE CODE SEQUENCE
609

FIG. 6

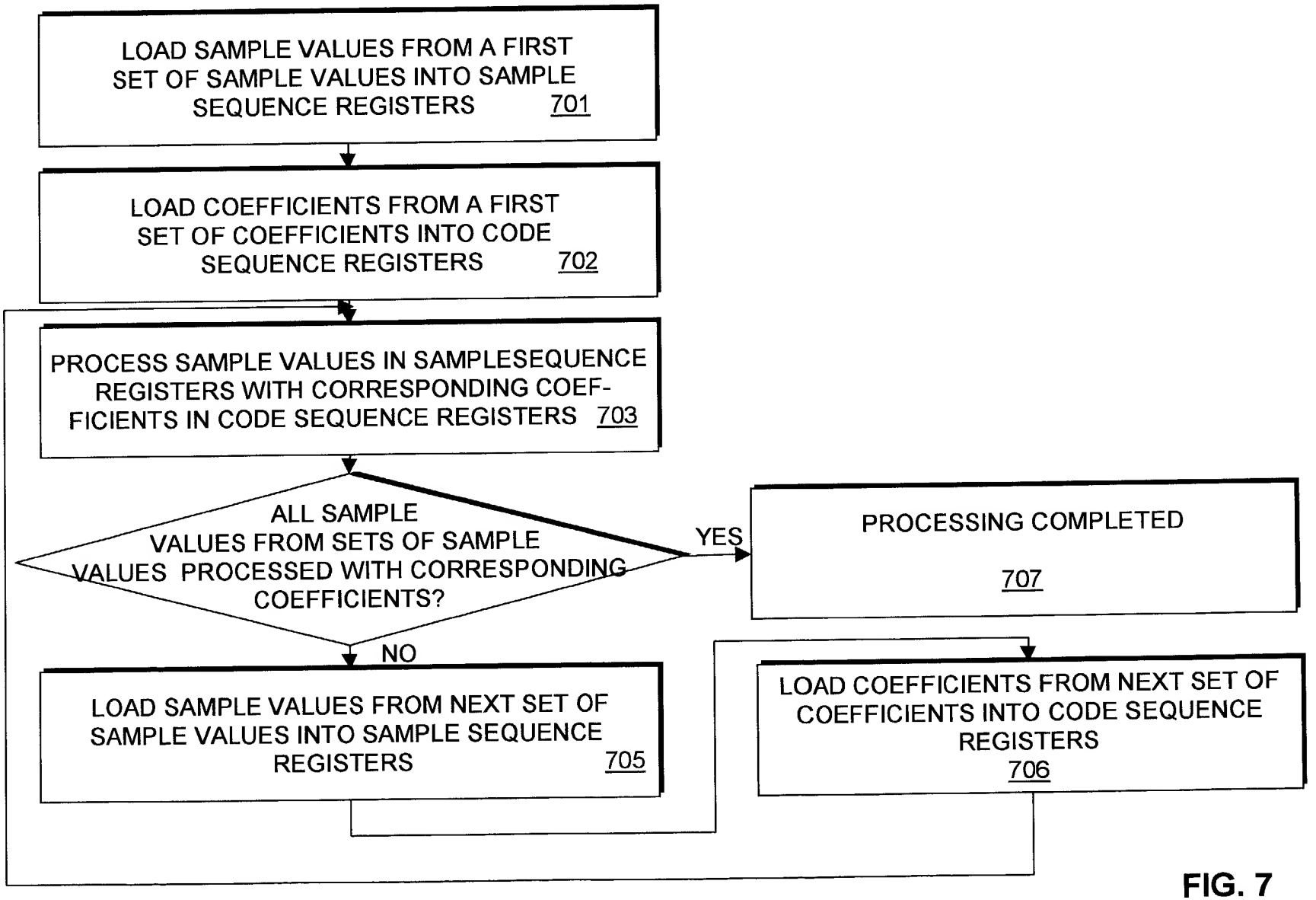
LOAD SAMPLE VALUES FROM A FIRST SET OF SAMPLE VALUES INTO SAMPLE SEQUENCE REGISTERS 701
LOAD COEFFICIENTS FROM A FIRST SET OF COEFFICIENTS INTO CODE SEQUENCE REGISTERS 702
PROCESS SAMPLE VALUES IN SAMPLESEQUENCE REGISTERS WITH CORRESPONDING COEF-FICIENTS IN CODE SEQUENCE REGISTERS 703
ALL SAMPLE VALUES FROM SETS OF SAMPLE VALUES PROCESSED WITH CORRESPONDING COEFFICIENTS?
YES
PROCESSING COMPLETED 707
NO
LOAD SAMPLE VALUES FROM NEXT SET OF SAMPLE VALUES INTO SAMPLE SEQUENCE REGISTERS 705
LOAD COEFFICIENTS FROM NEXT SET OF COEFFICIENTS INTO CODE SEQUENCE REGISTERS 706

FIG. 7

CODE SEQUENCE	1	-1	-1	1	1	-1	-1	-1						
RECEIVED SAMPLE	5	2	-1	3	6	-6	3	2	8	-3	7			

FIG. 8

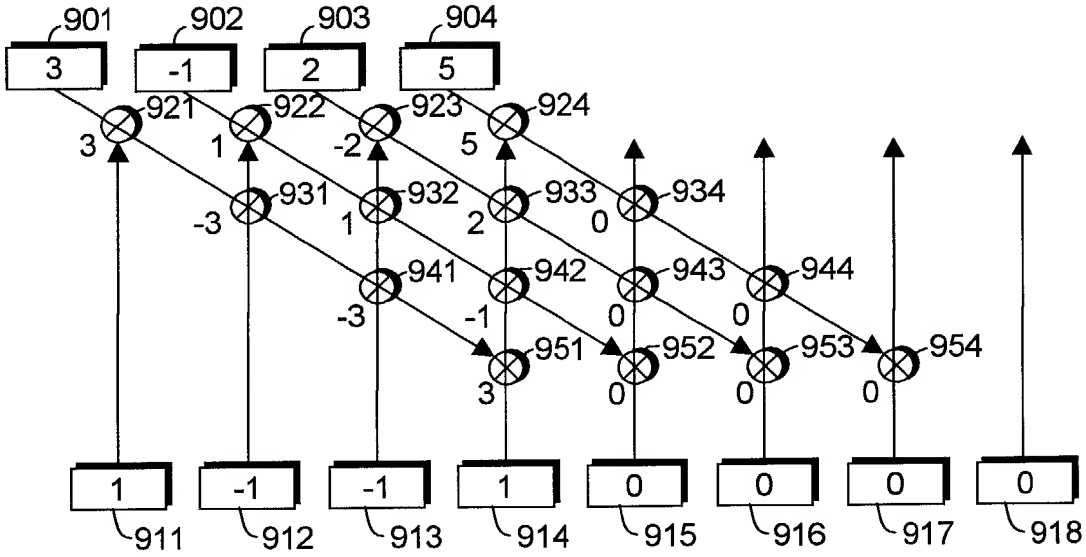
901
902
903
904
3
-1
2
5
921
922
923
924
3
1
-2
5
931
932
933
934
-3
1
2
0
941
942
943
944
-3
-1
0
0
951
952
953
954
3
0
0
0
1
-1
-1
1
0
0
0
0
911
912
913
914
915
916
917
918

FIG. 9A

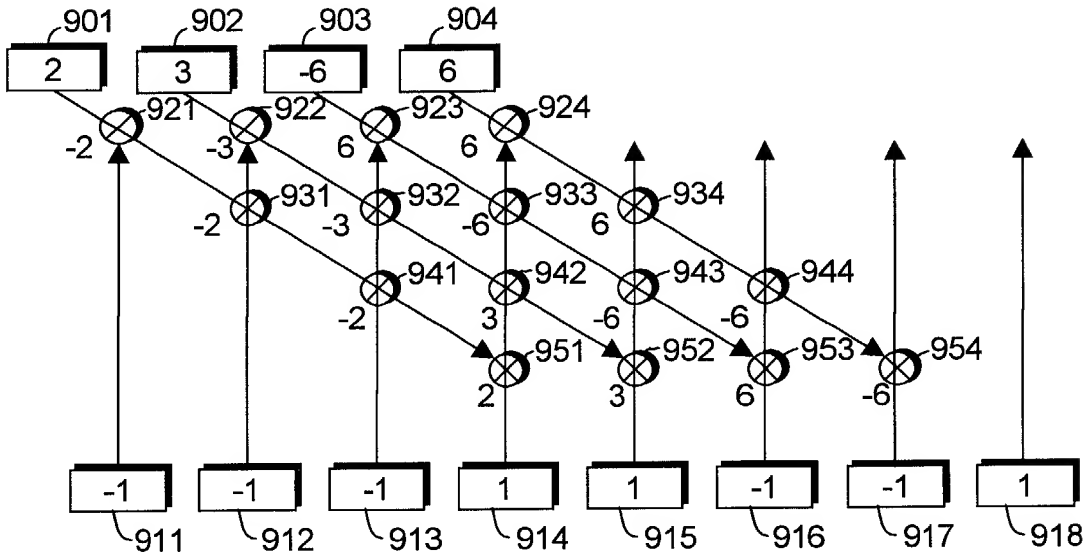
901
902
903
904
2
3
-6
6
921
922
923
924
-2
-3
6
6
931
932
933
934
-2
-3
-6
6
941
942
943
944
-2
3
-6
-6
951
952
953
954
2
3
6
-6
-1
-1
-1
1
1
-1
-1
1
911
912
913
914
915
916
917
918

FIG. 9B

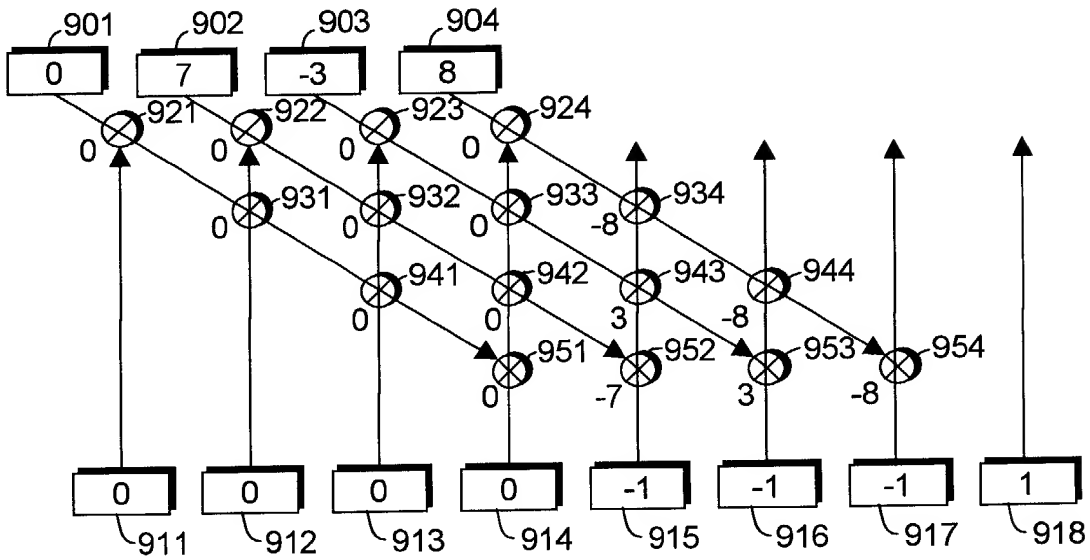
901
902
903
904
0
7
-3
8
921
922
923
924
931
932
933
934
941
942
943
944
951
952
953
954
911
912
913
914
915
916
917
918

FIG. 9C

CODE SEQUENCE	1	-1	-1	1	1	-1	-1	-1				
RECEIVED SAMPLE	5	2	-1	3	6	-6	3	2	8	-3	7	
LAG RESULTS	14	-13	-20	-4								

FIG. 10

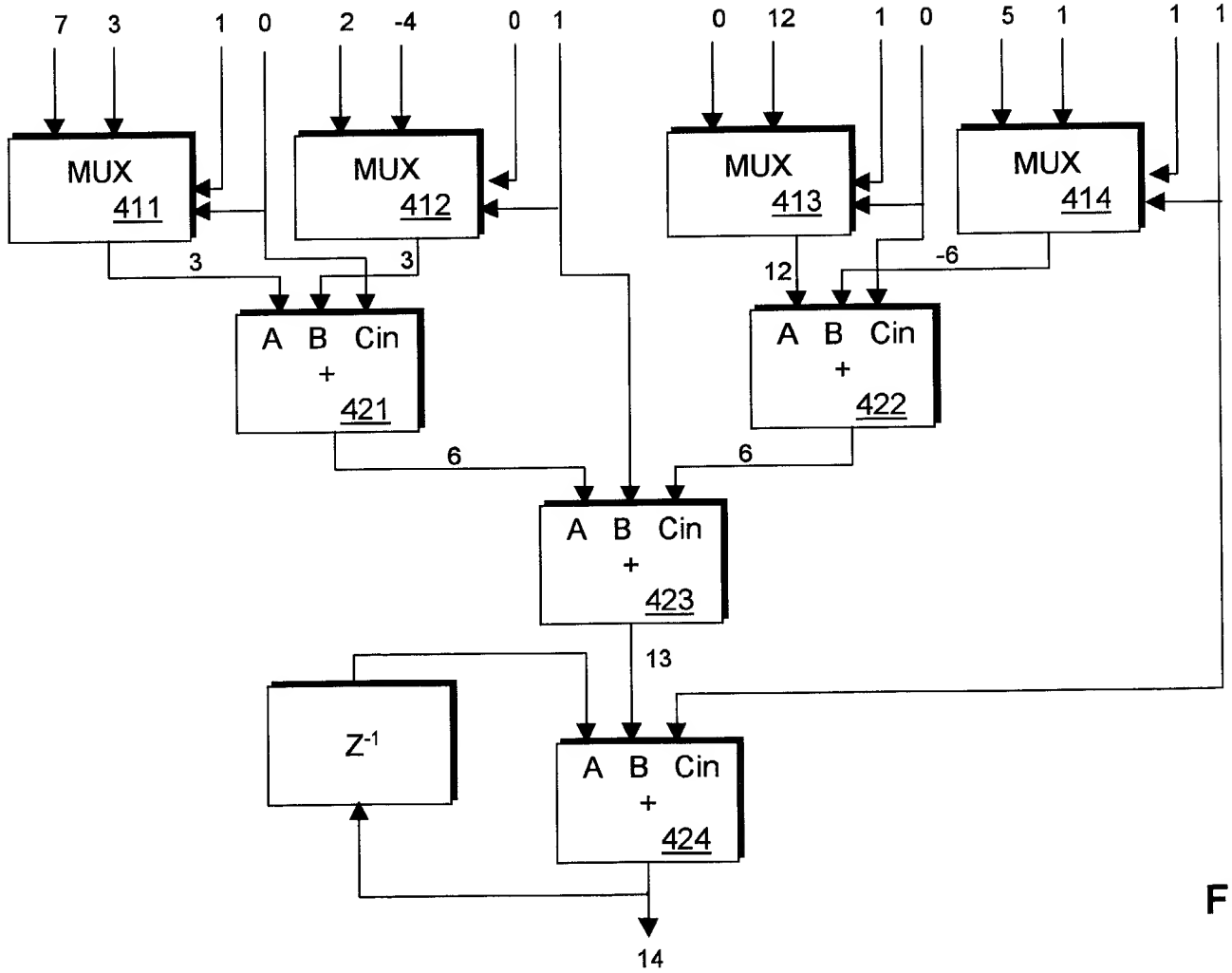
7
3
1
0
2
-4
0
1
0
12
1
0
5
1
1
1
MUX
411
MUX
412
MUX
413
MUX
414
3
3
12
-6
A B Cin
+
421
A B Cin
+
422
6
6
A B Cin
+
423
13
Z-1
A B Cin
+
424
14

FIG. 11